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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/717,610
Filing Date: November 21, 2003
Appellant(s): DO, GI HYEONG

MAILED
MAY 25 2007
GROUP 3700

Mark R. Kresloff
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed February 26, 2007 appealing from the Office action mailed May 10, 2006 (part of an interview summary mailed on that day).

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is deficient. 37 CFR 41.37(c)(1)(v) requires the summary of claimed subject matter to include: (1) a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number, and to the drawing, if any, by reference characters and (2) for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function as permitted by 35 U.S.C. 112, sixth paragraph, must be identified and the structure, material, or acts described in the specification as corresponding to each claimed function must be set forth with reference to the specification by page and line number, and to the drawing, if any, by

reference characters. The brief is deficient because the subject matter explanation does not refer to specification page and line number.

In this application, appellant has not concisely explained the subject matter defined in the sole independent claim. Specifically, appellant explains “performing the drying procedure S200. FIG 6; ¶ [0025].” Fig 6 does show “perform drying” at S200, but ¶ [0025] only specifies sensed temperature according to the drying time. The claimed “performing the drying procedure for the calculated drying time” is not concisely explained because it is not specified “for the calculated drying time” in either the figure or specification page and line number

Figure 4 more accurately illustrates the concisely explained temperature measurement, instead of appellant’s reference to figure 5.

Another deficiency in the brief is appellant’s explanation of the “rate of change of the temperature variation rate (i.e., a change in the change in temperature per unit time) is determined and monitored. FIG 6, S300.” However, appellant’s specification paragraph [0027] (image file wrapper page 7 of 9) merely specifies a “change in the temperature variation rate per unit time” beginning at line 12 and continuing through lines 14-18. It is believed that this deficiency is the crux of patentability over the prior art. The claimed “temperature variation rate” is reasonably and broadly construed from the specified “change in temperature variation rate” to be merely noting plural temperature variation rate differences or changes. It is understood that the rate of change of rate, like acceleration which is a rate in change in speed, is not the same as a variation rate, or comparing different speeds.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

A substantially correct copy of appealed claims 1-3, 6-8, and 15 appears on pages 1-2 of the Appendix to the appellant's brief. The minor errors are as follows:

Claim 2 is dependent upon claim 1 instead of cancelled claim 5; and

Claim 6 is dependent upon claim 2 instead of cancelled claim 5.

(8) Evidence Relied Upon

4,412,389	Kruger	11-1983
5,682,684	Wentzlaff	11-1997
3,792,956	Hyldon	2-1974
6,775,923	Do	8-2004

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

Claims 1-3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krüger (US 4,412,389) in view of Wentzlaff (US 5,682,684). The claimed invention is reasonably and broadly construed, in light of the accompanying specification, to be disclosed by Krüger as comprising:

initiating a drying process at column 2 lines 18-24 wherein the disclosed beginning the early phase of a drying process with the drying system is turned on is considered to expressly anticipate the claimed drying procedure initiation because both show the initial beginning of a drying process;

measuring a temperature at column 2 lines 35-45 wherein the disclosed measuring the temperature difference is considered to expressly disclose the claimed temperature measurement because both steps measure temperature;

calculating a temperature variation rate at column 1 lines 50-65 wherein the disclosed calculating time or duration from the determined gradient is considered to expressly anticipate the claimed temperature variation rate calculation because a temperature variation rate and gradient duration calculation are the same patentable steps to those skilled in the art;

calculating a drying time based on the temperature variation rate at column 5 lines 28-57 wherein the disclosed dryer operating time calculation based on a temperature gradient of change in temperature per change in time ($\Delta\theta/ \Delta t$) is considered to expressly anticipate the claimed drying time temperature variation rate calculation time because both steps use a change in temperature per change in time which to one skilled in the art defines a temperature variation rate;

performing the drying procedure for the calculated drying time at column 5 line 59 through column 6 line 64 wherein the disclosed operating duration is considered to expressly disclose the claimed drying procedure calculated time performance because both steps operate drying based on a time duration calculated from earlier disclosed

variables. Krüger also expressly discloses the claimed step of calculating a remaining drying time, wherein drying for the remaining drying time completes the drying procedure at column 6 lines 38-56 and inherently disclose the claimed steps of wherein the remaining drying time is based on a known drying pattern, the known drying pattern varying according to an amount and type of laundry at column 3 line 53 through column 4 line 64 because variable amounts and types of laundry will necessarily have different remaining drying time basis such that measure temperature/time changes will change remaining drying times. Krüger discloses the claimed invention except for the claimed steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates. Wentzlaff, another dryer control method, discloses steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates at column 8 lines 1-59 because the disclosed start temperature values at minute intervals and system response represent a variation rate calculation since both measure a value and provide a response function and because the disclosed considerable higher heating determines a substantial temperature increase in variation rate, as a function of a plurality of temperature variation rates, since both are an iterative process to determine a laundry dryer control method. It would have been obvious to one skilled in the art to combine the teachings of Krüger with the steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as

a function of the plurality of temperature variation rates, disclosed in Wentzlaff, for the purpose of applying a variable process such that an averaged measured value of air temperature during a quasi-steady-state phase to keep approximate equilibrium of heat removal from laundry by recorded and stored memory so that in making a decision as to which of the memorized process courses should be considered for the further handling of the load of laundry and a relevant decision data until the quasi-steady-state phase is reached as suggested in the summary of the invention section of Wentzlaff, especially beginning at column 3 line 43.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krüger in view of Wentzlaff in further view of Hyldon (US 3,792,956). Krüger in view of Wentzlaff obviates the claimed invention, as rejected above, except for the claimed one degree Celsius rate excess. Although appellant's originally filed application contains no basis in the specification for the claimed one degree Celsius rate, originally filed claim recited that value, such that it will be treated as an enabling feature and not indefinite. Hyldon, another dryer control method, discloses a one degree Celsius rate excess at column 5 lines 24-42. It would have been obvious to one skilled in the art to combine the teachings of Krüger in view of Wentzlaff with the one degree Celsius rate excess, considered disclosed in Hyldon for the purpose of controlling temperature for better drying process rates affecting the desired output.

Double Patenting

Claims 1-8 and 15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 of U.S.

Patent No. 6,775,923. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims reciting “calculating a temperature variation rate” is a broader recitation, or at least structurally and functionally equivalent, to the patented step “determining a medium temperature time by measuring a time lapse from said drying procedure, initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature, setting a drying time based on the determined medium temperature time and performing the drying procedure for the set drying time.”

It must be noted that assignee to the present application has a reasonable potential for an extreme number of double patenting rejections for the application. For example, assignee has more than 3000 published applications (based on an assignee EAST patent publication database search), excluding patented inventions. Of those applications two more applications could reasonably used in further double patenting rejections. Those applications include claims 3-9 of 10/912,039 and claims 1-17 of 10/994,415. It is requested that appellant identify claims which may be potentially subject to double patenting rejections and amend the claims of the present application and/or file a terminal disclaimer as appropriate.

(10) Response to Argument

obviousness rejection of claims 1-3 and 6-8

Claims are reasonably and broadly construed, in light of the accompanying specification. Appellant asserts that Krüger in view of Wentzlaff does not obviate the

claimed invention because the Office should give the claimed temperature variation rate a narrower meaning than a reasonable broad claim construction.

Wentzlaff obviousness teachings

As argued by appellants, a temperature variation rate reflects a change in temperature relative to a change in time, with temperature and time being variable. As suggested by Wentzlaff, in the rejection above, air inlet temperature reaches "75 degrees after one minute" (please see column 8 line 35) then in "the next one minute interval" (please see column 8 line 37), the temperature drops to "about 55 degrees" (please see column 8 line 40). This expressed teaching meets the claimed calculating and determining temperature variation rates as a function of plural temperature variations. The appeal argued, ordinary and customary meaning of rate, being a ratio between two variables because the temperature variable changes as does the time variable. Appellants further argue determination must be made as to whether a substantial increase in a change in the change in temperature per unit time, however this feature is not claimed. Patent application examination does not allow importing specification or argued limitations into the claims. In this application, the claimed temperature variation rate is construed as a change in temperature over a change in time. Furthermore, the claim recitation "substantial" is given its ordinary and customary meaning such that the teachings of Wentzlaff suggests the claimed substantial increase in temperature variation rate as a function of a plurality of temperature variation rates because Wentzlaff suggests a plurality of temperatures between 20 and 80 degrees,

such that the temperature variation rate of 20 degrees to 80 degrees is substantial (i.e. room temperature rate to near boiling rate).

Appellant further argues that temperature measurements taken at various locations is not disclosed in Wentzlaff. Since this feature is not claimed, it can not be imported into the claims to overcome the rejection.

Wentzlaff inherency

Appellant asserts that an Office final rejection was modified based on an interview conducted July 11, 2006. However in that interview, no agreement was reached and it was stated that "Examiner considers the claimed calculating a plurality of temperature variation rates and determining the increase in temperature variation rate to be inherently disclosed in the prior art." The record clearly shows that the rejection was not modified based on that interview.

The inherency argument is not necessary because Wentzlaff expressly discloses the claimed and argued calculating and determining temperature variation rates as a function of plural temperature variation in the rejection above, and discussed under the Wentzlaff obviousness heading of this answer. The disclosure of Wentzlaff use of a computer, as argued by appellant, is further basis for expressly disclosing the claimed calculating and determining steps because that dryer computer, especially using a "fuzzy logic" algorithm, calculates changes in temperature over a change in time to determine a variation rate.

Evidentiary inherency support

It is believed that evidentiary inherency support is not needed because Wentzlaff expressly discloses the claimed calculating and determining temperature variation rates as a function of plural temperature variation, as answered above. However, a calculating and determining function of a temperature variation rate would necessarily result because differing temperature variables measured over differing time intervals would result in a plurality of temperature variation rates, as claimed.

Hyldon obviousness teachings

Although appellant provides no specification basis for the one degree Celsius feature, the teachings of Hyldon obviate the claimed invention in view of Krüger in view of Wentzlaff. Furthermore, appellant's arguments are merely an assertion of patentability rather than distinguishing the claimed feature over the prior art.

Obviousness-type double patenting rejection

Appellant correctly identifies the obviousness-type double patenting rejection, but uses anticipatory rejection arguments to address the rejection. It should be recognized that the claims are rejected under an obviousness-type double patenting rejection, not an anticipatory rejection.

As rejected above and briefed by the appellant, the claimed invention will be discussed in light of appellant's patented invention:

- the claimed "initiating a drying procedure" corresponds to the patented "initiating a drying procedure;"

- the claimed “measuring temperature” corresponds to the patented “determining a medium temperature;
- the claimed “calculating a temperature variation rate” is an obvious variation to the patented “determining a medium temperature time by measuring a time lapse from said drying procedure, initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature, setting a drying time based on the determined medium temperature time and performing the drying procedure for the set drying time,” because the patented determining time, initiating point of reaching a temperature, and setting a drying time based on medium temperature steps are all necessary to calculate the rate of temperature variation by measuring temperature and time then using those measurements to meet the claimed
- “calculating a drying time based on the temperature variation rate,” which corresponds to the patented “setting a drying time;”
- the claimed “performing the drying procedure for the calculated drying time” corresponds to the patented “performing the drying procedure for the set drying time;”
- the claimed “calculating a plurality of temperature variation rates” corresponds to the patented determining time, initiating point of reaching a temperature, and setting a drying time based on medium temperature steps, as discussed above, because the patented “reaches a medium temperature” and “maximum drying

“temperature” represent a plurality of temperature variations over time variations to result in a plurality of temperature variation rates;

- the claimed “determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates” corresponds to the patented “determining a medium temperature time by measuring a time lapse from said drying procedure, initiating step to a point where the internal temperature reaches a medium temperature between a drying initiation temperature and a maximum drying temperature, setting a drying time based on the determined medium temperature time and performing the drying procedure for the set drying time,” because the patented medium to maximum temperature represents a substantial temperature variation, which measured over time, determines the substantial rate increase based on a plurality of variation rates.

The discussion above addresses appellant’s concern with respect to the currently claimed “calculating a temperature variation rate” being an obvious variation to the patented determining time, initiating point of reaching a temperature, and setting a drying time based on medium temperature steps, because a temperature variation rate, as currently claimed, is broadly and reasonably construed, in light of the accompanying specification to be a change in temperature over a change in time. The patented invention measures temperature variations at different times to calculate different drying times.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Stephen Gravini



Conferees:

Stephen Garbe 

Josiah Cocks 